DOCUMENT RESUME

ED 209 830 EC 140 344

AUTHOR Thurston, Linda P.; And Others
TITLE Utilization and Evaluation of Parents as Tutors of Young Black Children with Special Needs.
PUB DATE Feb 81
NOTE 30p.; Paper presented at The Council for Exceptional Children Conference on The Exceptional Black Child (New Orleans, LA, February 15-17, 1981, Session M-S).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Black Youth: Case Studies: Elementary Education: Home Instruction: *Learning Problems: *Low Income Groups: *Mild Disabilities: Paraprofessional Personnel: *Parent Education: Preschool Education: *Tutoring

ABSTRACT

The panel presentation includes three papers describing the development and implementation of two parent oriented intervention programs currently serving low income Black families in Kansas City, Kansas. Both programs are home based and utilize trained community paraprofessionals as parent trainers. One program trains parents of preschool physically and mentally handicapped children to teach their children new skills. A home visitor from the community acts as parent, trainer, and advocate. The second program teaches parents in a single session to tutor their elementary school aged children who are at least one grade level behind in academic areas. The first paper gives an overview of both programs while the two remaining papers provide detailed case studies of the use of the program with a slow learning speech handicapped 6 year old, a mentally retarded 7 year old, a fourth grade student failing in spelling, and a 6 year old having difficulty with math facts. (Author/DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED209830

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

TITLE:

Utilization and Evaluation of Parents as Tutors of Young Black Children with Special Needs

Linda P. Thurston, Director
Juniper Gardens Learning Center
University of Kansas
Kansas City, Kansas

PAPERS:

Overview of Two Parent Oriented Tutoring Programs Currently Serving Low Income Families in Urban Kansas City

Linda P. Thurston
University of Kansas

The Juniper Gardens Family Education Program

Jerilynn Jacobson
Catherine J. Edwards
University of Kansas

Parents as Tutors for Academic Behaviors

Kathy Dasta
Gloria J. Heggie
University of Kansas

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Linda P. Thurston
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EC 140 344

Presented at

Council for Exceptional Children
Conference on The Black Exceptional Child
New Orleans, Louisiana
February 15 - 17, 1981

UTILIZATION AND EVALUATION OF PARENTS AS TUTORS OF YOUNG BLACK CHILDREN WITH SPECIAL NEEDS

PRESENTERS: LINDA P. THURSTON, GLORIA HEGGIE, CATHERINE EDWARDS

The Juniper Gardens Learning Center serves families and children in a low-income Black community in urban Kansas City. It works with parents to involve them in the education of their handicapped and/or educationally disadvantaged children. Parents are trained to tutor their children in academic and pre-academic skills and all parents are trained to use simple tutoring procedures although the content of the program is based on the child's preassessed needs. Behavior analysis research designs are used to evaluate the effects of the training on children and on parent-child interactions.

Often, special strategies and materials are needed for urban families whose motiviation and financial and time resources are limited. Meeting the specific skill levels and needs of parents, individualization of the curriculum, the use of trained community workers as parent trainers, and various types of support systems are necessary for successful experiences in parent-tutoring of children with special needs.

This panel will describe the development and implementation of two parent-oriented intervention programs currently serving low-income, Black families. Both programs are home-based and utilize trained community paraprofessionals as parent trainers. One program trains parents of pre-school physically and mentally handicapped children to teach their children new skills. A home visitor from the community acts as parent trainer and advocate. The second program teaches parents in a single session to tutor their elementary school aged children who are at least one grade level behind in academic areas. These children are often placed in special remedial classes. Parents tutor their children daily and have been successful in improving the in-class and in-home academic performance on children in math, reading, and spelling. Program evaluation demonstrates the change in parent-child interactions as a result of the in-home training. This panel will describe the procedures, the results, and the problems faced in implementing parent tutoring programs in a low-income urban area.

Overview of Two Parent Oriented Tutoring Programs
Currently Serving Low Income Families in Urban Kansas City

by

Linda P. Thurston
University of Kansas

There is a mass of empirical evidence that parents can be taught to be teachers and therapists for their own children. At Juniper Gardens Learning Center, we have been working with parents and teachers of young disabled children for 7 years. We are interested in the effects of training parents to tutor or teach their children at home with simple, non-punishing strategies.

Juniper Gardens in a public housing area and our programs were designed specifically for and by the parents who live in the community of Northeast Wyandotte County in Kansas City, Kansas. This is a low-income, high density urban area which is predominantly Black.

Two of our training programs deal specifically with training parents to tutor or teach their children who have special needs. Parents and families are referred to our programs through the school system, local preschools, social services, and self-referral. Both programs teach parents to work with their children on specific academic, social, language, or self-help behaviors. The behaviors are targeted by parents and teachers, if the child is in school. Parents are trained by trained paraprofessionals who are from the community they serve. They train parents in the home and help them set daily schedules to work with their children using simple, experimentally validated procedures.

FAMILY EDUCATION PROGRAM

Two parent training programs we'll talk about are the Family Education Program and the Parent Tutoring Program. The Family Education Program is funded by the Office of Special Education through the Department of Special Education at the University of Kansas. The program provides services and support systems for families with young children with mental and physical handicaps. It utilizes trained community paraprofessionals to train parents to use behavior management and positive skill training techniques to increase developmental skill acquisition. The program is home-based and the Home Visitors teach specific educational procedures to parents which they, in turn, use to teach their children new skills and to remediate behavior management problems.

Children in this program are pre-tested on various standardized tests and Home Visitors assess, in the home, the parents' behavior management skills. Information from these assessments are used to pinpoint a number of beginning target behaviors for training in the home.

Target parent behaviors are taught by the Home Visitor following the same teaching model for each skill. Home Visitors model the new skill, role-play the application of the technique with parents, pointing out correct and incorrect behaviors, and directly supervise the parent's application of the skill with her child. Home Visitors give parents immediate prompting and positive and corrective feedback. When the skill is learned, to criterion, the Home Visitor begins fading out the amount of monitoring and positive feedback.

When parents reach criterion on one skill, a new skill is then introduced and taught in the same manner. The six parent skill lessons are based on behavior management procedures and they are: describing behavior, using descriptive praise, using planned ignoring and positive reinforcement, using time out and positive reinforcement, giving good instructions, and consequating behaviors (putting it all together).

The second half of the training is called Curriculum B and utilizes the parent's new skills to help them teach specific new skills to their children. This is called Positive Teaching Strategies for Parents. The Home Visitor and the parents develop lessons for each child based on the child's needs and the needs and the interests of the parents. Two examples of projects carried out as part of Curriculum B will be described later.

PARENT TRAINING PROGRAM

The second program at the Juniper Gardens Learning Center that involves training parents to teach their children works with children who need tutoring in academic areas. Home Visitors teach parents to carry out simple daily tutoring procedures and to collect their own data on the children's skill acquisition. Our evaluations have demonstrated the effectiveness of simple tutoring procedures impemented in the home by the parent. Academic behaviors have generalized to the classroom and parents and teacher report they are highly pleased with the effects of the tutoring.

The tutoring procedures are unique in several ways; they did not require intensive training of the parents and they did not require more than 15 minutes dai'y to implement; they are entirely implemented by a Home Visitor; the parent does all the tutoring; and they are based on structured and systematic practice of the response rather than relying primarily on positive reinforcement.

Two simple studies will be described with demonstrate these aspects of the tutoring program. A Home Visitor was the parent trainer in one study and a female high school student was the trainer in the second study.

The parents trained have been primarily low-income minority women, who, although they face a multitude of economic, personal problems, are still concerned with the achievement of their children. These procedures are successfully helping parents act as teachers and tutors of their own children.

The Juniper Gardens Family Education Program

Catherine J. Edwards
University of Kansas

The Juniper Gardens Family Education Program

by

Catherine J. Edwards
University of Kansas

The Family Education Program for parents of young handicapped children is funded by the Office of Special Education to serve families in Northeast Wyandotte County, Kansas. The project is funded to design and implement a training program for parents who have children, aged 0 - 6, who are physically, emotionally or mentally handicapped or developmentally delayed. It utilizes community paraprofessionals to train parents to use behavior management and positive skill training techniques. The program is criterion-based in that a parent is taught the next skill in the sequence after meeting criteria on a specific skill. The Family Education Program is entirely home-based.

STUDY I

Don is a six year old boy who shows to be a slow learner from different evaluations given. He also has speech problems. The school he attends referred his parent to our program, the Family Education Program. We explained the two-part curriculum to the parent, and the parent signed the consent form and agreed to join. Don was getting speech therapy from his school, but his mother wanted more help with his speech. So the program sought extra speech services from another agency for Don.

A Denver Developmental test was given to Don before the first skill was taught. Behavior modification was taught for about three months, until the mother learned the skills taught. The second part of the Family Education Program is teaching parents how to teach unlearned skills. We alway assess children using the Portage Checklist, and we also ask parents what they feel is the most important task to teach their child first.

PRODECURES

This parent chose colors, because she had begun teaching him but he wasn't progressing. The shaping procedure developed by the home visitor and the mother to teach Don colors was:

1. Have child to match colors
2. Point to colors when names are stated
3. Child names colors as he picks one up

Don was very successful in matching colors. Then Don's mother had him to point to colors as she named them. First she modeled pointing to colors and practiced with Don regularly. This was to get him familiar with learning to put names with colors or objects. Data was taken on the progress that Don made using the final step of the program, naming the colors.

Home Visitor used toys (i.e. Tower Terrifics) in the teaching process. The task was that Don would be told to build a tall tower and name the color of the one he picked up. The colors used were red, yellow, blue and green. Before teaching the task, a pre-test was taken. This showed if he could recognize and name each color. He identified red with 80% accuracy; yellow, blue and green with 40% accuracy.

After pre-testing Don, home visitor modeled the procedure of building a tower and naming the colors. The home visitor then picked up all the Tower Terrifics except for the colors, yellow and red. The method which was modeled for the parent to use each day, to practice at least fifteen minutes, was to use these two colors. The mother was told to have Don build a tower naming each color as he picked them up. The parent made a game of it, "You build then I'll build" or "We'll build together. But we have to name what color the Terrific is before putting it on with the others". The reason red and yellow were chosen was because he knew the color red and made a higher score on yellow than the other two colors during practice session. We always begin teaching a child something he/she knows and then add to it.

As soon as Don scored 100% three times in a row on red, this color was dropped and another was added. This was the procedure used until Don was able to recognize and name all four colors with 100% accuracy.

During one home visit, the home visitor discovered that sometimes Don would not look at the Terrifics but just call out a name. What brought this to the home visitor's attention was his mother's comment about him getting the colors correct at one time and then turning around and getting mixed up on them during the same session.

Mother was asked to model how she had been working with him. After observing the procedure, it was noticed that he was not really looking at the Terrific but just saying a name and getting ready to build. The instruction given to Don after this point was, "Don, look at the terrific. Now tell me, what color is that?" Don's progress increased tremendously after we began using this method.

When Don met criteria on the colors, the home visitor put all the terrifics on the floor, a variety of all the colors and told Don to build her another tall tower using all the colors. This is when he was post-tested on recognizing and naming the four colors.

After Mom trained Don on all four colors, using the procedure of teaching only two colors at a time, the result of the study shows Don's pretest scores increased to 100% on all four colors.

STUDY II

J. is a seven year old boy who's functioning on a two and a half year old level. J. was evaluated and diagnosed as mentally retarded with unknown etiology. J. wears a patch over his right eye in order to strengthen his left eye.

His left eye is considered to be a lazy eye which is called Ambloyopia. His developmental stages were slow, he did not walk until the age of two. He's not completely toilet trained, although he will sometimes indicate at home a need to go to the bathroom, but never at school. He was able to feed himself independently at the age of five. He never eats the balanced meal his mom prepares. Her comment was that he never eats hardly anything. J. also sometimes holds food in his mouth for six hours or longer. Some of the foods he does not eat are peanuts, glazed donuts and fruits. He has some unusual behaviors, which are very noticeable. He chews on his clothing, repeats every sentence someone makes, and uses his hands in gesture motions when he's talking.

J. and family were referred to the Family Education Program by the school he attends. His teacher in the TMR (Trainable Mentally Retarded) class recommended that he be institutionalized. But his mom gave a definite "No" answer to this recommendation. Mom expressed her feeling about the matter by saying, "Although my child has some disabilities, I feel he can be taught to learn some skills. And what could be a better place than home with his family where he's very much loved and cared for to the best of our ability."

We found out that both his mom's and his teacher's major concern was to teach J. some self-help skills. One of the skills taught to J. was to unsnap his pants. A baseline measure was taken. J's Home Visitor observed for five minutes, J. making attempts to unsnap his pants. In fifteen trials of pretest, J. unsnapped twice independently and twice with prompting.

During observation of J. unsnapping his pants, it was noted that J. was not really paying attention and tended to pull both flaps downward. The task was very difficult to him, so the Home Visitor took J.'s hand and helped him unsnap his pants. Immediately praise was given to J., "You unsnapped your pants with help, good job." The Home Visitor then taught the parent to follow these three steps: (1) Say, "J. unsnap", (2) Prompt and put J. through the task, and (3) Praise. Mom then began to shape J. by putting him through the procedure.

The parent was shown how to fade her prompts as J. responded. J's mother put him through the unsnapping procedure for two weeks. She worked at least fifteen minutes per day. Mom found it very hard to fade out and let J. do the task alone because it would cause anxiety and frustration to J. if he was asked to perform the task alone.

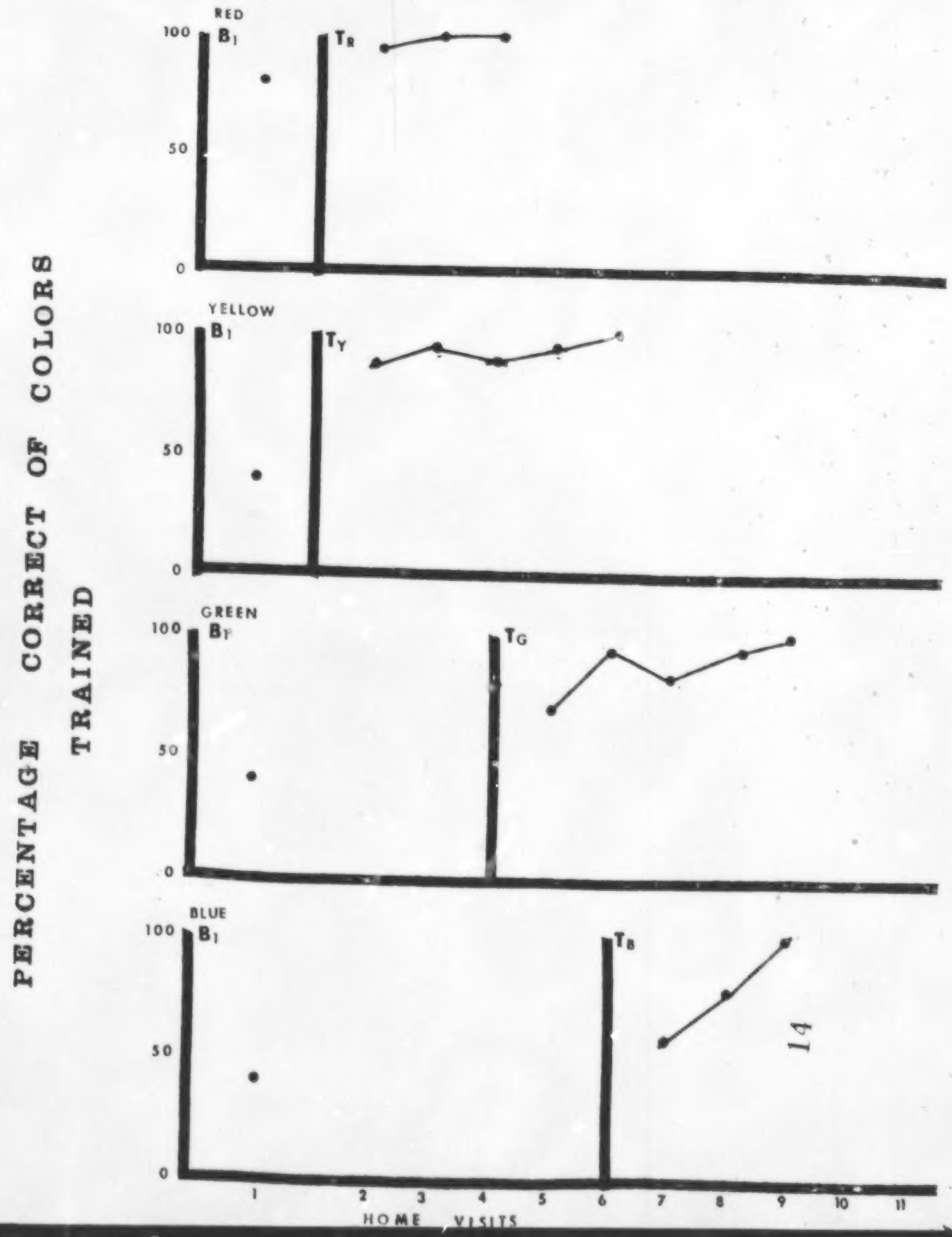
The Home Visitor again observed J. making attempts to unsnap his pants without his mother's help. In another fifteen trials, J. succeeded only four times. The observation showed again that J. would alway pull down both flaps in making his attempts. It was then decided by the Home Visitor to eliminate one of the flaps and observe what happens. The Home Visitor folded the inner flap downward inside his pants and only the outer flap was shown. J. was told to unsnap his pants and immediately he pulled the outer flap and the snap came loose. Mom was very excited and immediately gave J. a praise with a hug, saying "You did it, J. You unsnapped your pants without help." His mother was then asked to tack all his inner flaps on his other pants down in the inside. She was told that whenever J. needs to have his pants unsnapped if he's not in a hurry, please tell him to unsnap and never do it for him unless it's an emergency. Before the Home Visitor left, J. was told to unsnap his pants a number of times to be sure that the task had been accomplished.

By tacking the flaps on J.'s pants, it was very helpful to his teachers at school. Because the teachers gave positive feedback on how well he could accomplish doing this task, J. continued improving. At a final observation of this task, J. sucessfully performed the behavior. On one probe and the post test, J. succeeded unaided fifteen out of fifteen trials.

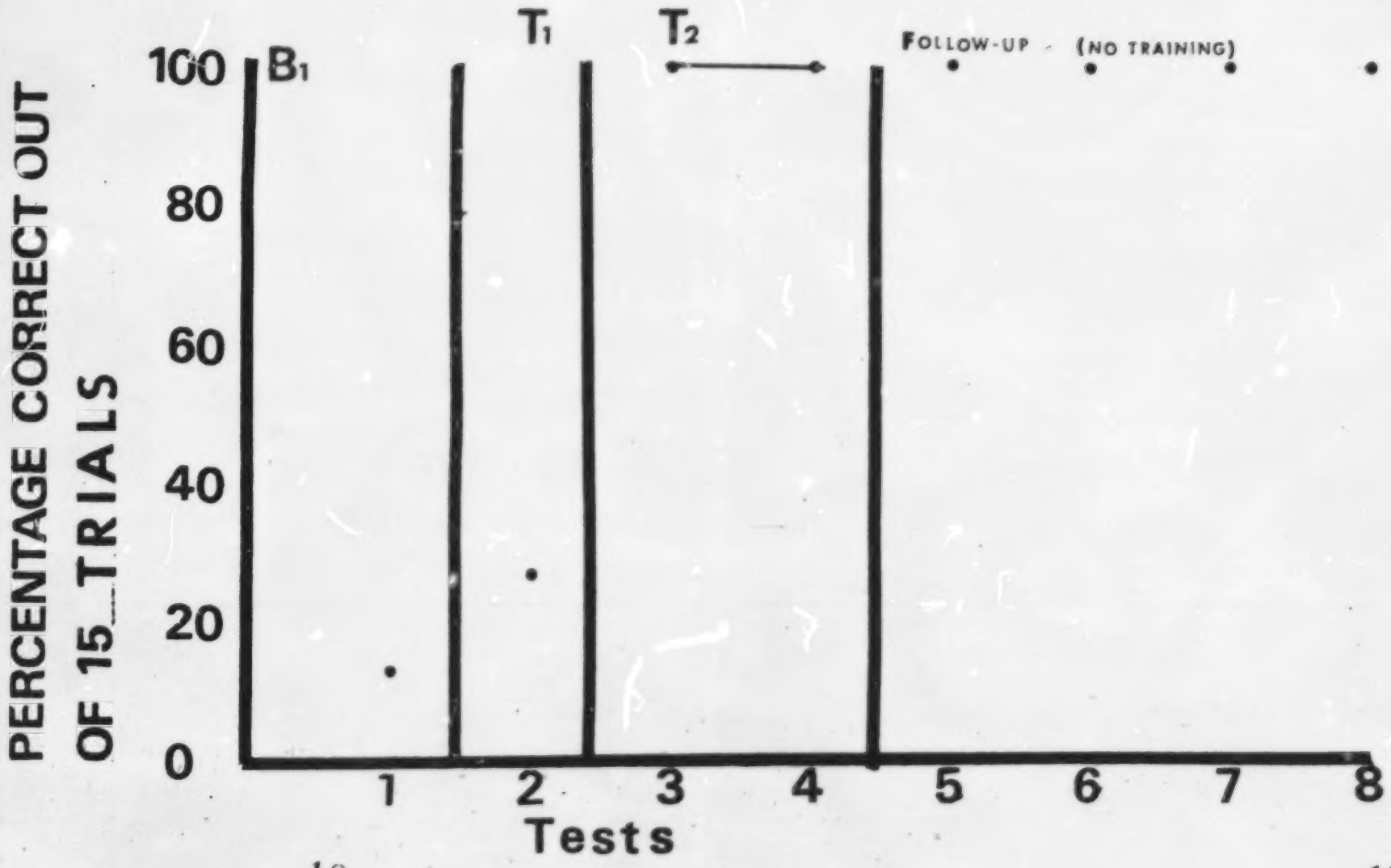
The star on the graph shows where after post test was given, Mom's training on this behavior stopped. But the Home Visitor continued probing to see if J. could still do the task successfully.

This was only one accomplishment J. made, since the success of learning to unsnap his pants. He has progressed very well with other tasks such as unzipping his pants, zipping and unzipping his coat, first with help and simple instruction, then without help. His mother uses descriptive praise when J. performs self-help tasks without help. It may be difficult for J. to do things in the manner they are usually done. But he has been taught by his mother to do some tasks and not depend on others. Working with the mother in only two visits, the Home Visitor helped the mother train her child to unsnap his pants.

STUDY I


PERCENTAGE CORRECT OF COLORS TRAINED
RED
YELLOW
GREEN
BLUE
100
50
0
B1
TR
TY
TG
TB
1
2
3
4
5
6
7
8
9
10
11
HOME VISITS

STUDY II


PERCENTAGE CORRECT OUT OF 15 TRIALS
100
80
60
40
20
0
B1
T1
T2
FOLLOW-UP - (NO TRAINING)
1
2
3
4
5
6
7
8
Tests

Parents as Tutors for Academic Behavior

Gloria J. Heggie
University of Kansas

Parents as Tutors for Academic Behaviors

by

Gloria J. Heggie
University of Kansas

There is a mass of empirical evidence that parents can be taught to be teachers and therapists for their own children. As part of the overall investigation at Juniper Gardens Children's Project of the effects of increased opportunitites to respond to academic-based antecedent events, we have been interested in the effects of training parents to tutor their children at home. Parents have been trained in groups and individually at schools, learning centers, and in the home to tutor their children in a variety of academic areas, and the effects on in-school performance have been studied.

Subject and Setting

The parent trained was a low-income, minority woman who had faced a multitude of economic, personal problems, and was still concerned with the academic achievement of her child.

This specific case will be discussed. The study utilized a single parent to increase opportunity to respond in an academic area via structured tutoring procedures. The child was enrolled in a public school in the Northeast Wyandotte County area. The mother of the child was trained in the home by a paraprofessional to be a tutor. The mother was tutored in spelling. The effects of the procedures were evaluated on both (1) in-home and (2) in-school academic performance using a single subject research design.

General In-Home Tutoring Procedures

The tutoring procedures utilized by the parent in the In-Home Parent Tutoring Program are based on behavior analysis techniques. This function was to provide the parent with a low-response cost, yet effective, procedure

to provide practice out of the school setting for academic responses required in school.

The first step in implementing the program was to discuss the project with the teacher. The parents and the paraprofessional solicited help from the teacher in terms of data keeping and providing lists or descriptions of academic responses required in school.

The parent was trained in the home to tutor her child for 10-15 minutes daily, excluding weekends. She kept all tutoring materials in a folder and held the tutoring session at the same time and in the same place daily, when possible.

The materials used were: (1) a set of 3 X 5 flash cards with one word (spelling) per card; (2) a daily worksheet which lists procedures for the parent and serves as a data sheet for marking trials daily; and (3) a daily word chart, on which the child records her own daily score after the session in the home.

During the daily tutoring sessions, the parent followed a specific set of procedures. The common elements for spelling were: (1) pretest of all words on Monday and posttest on Friday. The parent reported these procedures simple to implement and parent and child said they enjoyed the sessions.

STUDY I

Earline was a fourth grade student who was failing in spelling. Her mother asked the Juniper Gardens Learning Center for help although the teacher was pessimistic about Earline's ability to spell. Earline's pretest WRAT, given by an independent observer, showed her achieving a 2.5 (second grade, five months) and her first six weekly reading scores were fives (lowest grade).

PROCEDURES

On the seventh week, Earline's mother tutored her in spelling. She followed the in-home tutoring procedures described above. She asked her daughter on Monday to spell by writing a series of 21 words (the weekly spelling list at school). The mother read the word from a card and used it in a sentence. The mother put the words in 3 piles, ones Earline knew, ones she did not know, and ones she spelled correctly after pausing for 10 seconds or she self-corrected after an initial error. The number she knew was considered the score on the pretest.

Earline was tutored daily for 10 minutes. The mother worked on the words in the "unknown" and "not for sure" piles. Earline was asked to say the word, then write it on her paper. Correct spelling was praised and the card put in the "known" pile. Errors were corrected by having her look at the card, say the word and write it correctly, then write it without looking at the card. Correct responses were praised.

The mother and daughter recorded the number of words in the "known" pile daily by coloring in blocks on a chart. The chart served as a cumulative graph of words known and learned during the week. On Friday, Earline was tested on all 21 words at school.

When the motehr had tutored Earline for 5 weeks, the teacher gave a series of spelling tests which were not tutred because of illness one week and because the mother tutored on other words than the ones tests for three times. During this time the spelling grades on the tests were 5's.

During both baseline periods, Earline's scores on weekly Friday spelling tests ranged for 9 to 60%. Her grade was consistently a 5. During the treatment period, her average test score was 91.6%. Reliability on Friday exams at school was 100%. After six weeks of tutoring, Earline's WRAT scores in spelling rose from 2.5 to 3.1.

DISCUSSION

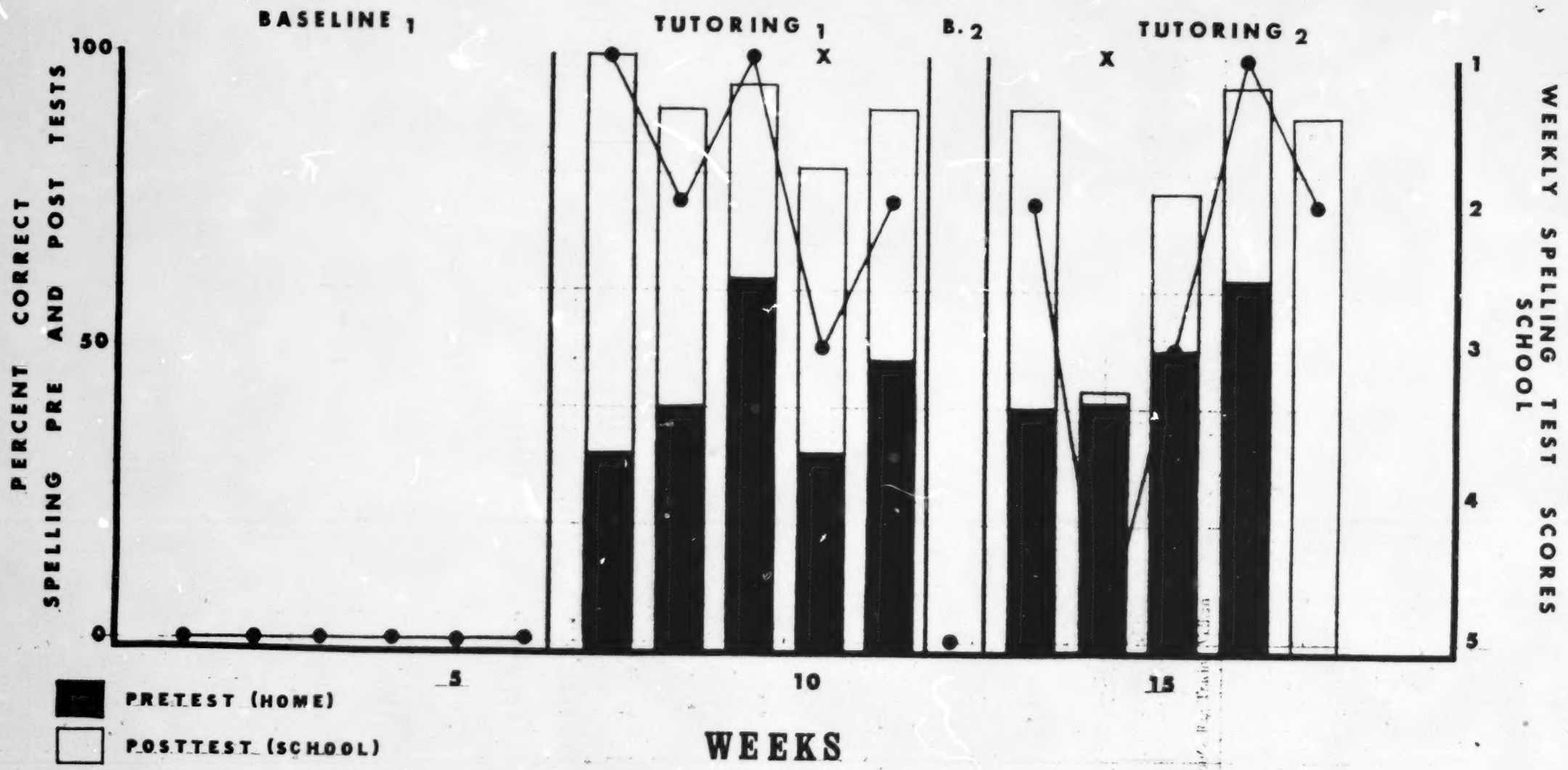
This study demonstrates the effectiveness of a simple structured tutoring procedure implemented in the home by the parent. Not only was criterion-referenced academic achievement demonstrated in the home as a result of the sessions, learning generalized to the classroom setting when measured by teacher-administered tests of the targeted academic behavior.

Earline's grades in spelling went from all 5's to 1's and 2's when her mother worked with her at home. Her average posttest score was 91.6% during tutoring.

According to her report, the mother learned more than a tutoring procedure. She learned to be more positive in general with her child. She learned that she can do something about her child's academic learning adn that working with her child who had a history of failing need not be punishing.

The tutoring procedures were unique in several ways: (1) they did not require intensive training of the parent and they did not require more than 15 minutes daily to implement; (2) they were entirely implemented by a community paraprofessional based at a Learning Center; (3) the parent did all the tutoring; and (4) they were based on structured and systematic antecedents emphasizing practice of the response rather than relying primarily on positive reinforcement.

Providing an opportunity to practice academic behavior has a positive effect on academic performance in school. When parents provide that opportunity at home the positive effects for the child and the parent are multiple. We are currently investigating the effects of these home-based procedures with a variety of children and with other curriculum areas.


BASELINE 1
TUTORING 1
B. 2
TUTORING 2
X
X
100
50
0
PERCENT CORRECT
SPELLING PRE AND POST TESTS
1
2
3
4
5
WEEKLY SPELLING TEST SCORES
SCHOOL
5
10
15
WEEKS
PRETEST (HOME)
POSTTEST (SCHOOL)
SPELLING TEST SCORES (SCHOOL)
X RELIABILITY CHECKS

STUDY II

An important part of our programs to involve parents in increasing the academic achievement of their children is to develop procedures which can be taught to parents by non-professionals. This study describes one example of a parent being trained by a high school student. The procedures she taught the parent to use were developed by other research at the Learning Center. This earlier reserach showed that a teacher could train parents to use simple daily procedures to increase in-home and in-school achievement in several academic areas. In this study, the academic area was math, and the parent trainer was an 18 year old women who works 2 hours a day at the Learning Center doing copying and clerical work.

Subject

A 6 year old boy and his mother were the subjects of the study. The family lives in Kansas City, Kansas and the son, Bobby, attends the public school in the neighborhood and is in the 1st grade. The mother indicated that Bobby was having a difficult time with his math facts. His grades at school verified that problem.

Setting

The procedures for the tutoring program were carried out in the family's home. Whenever the trainer was involved, she would come to the family's home.

Procedures

The trainer visited the subjects in the home twice before the tutoring procedures began. The first visit was to briefly explain the program to the parent, have the parent sign the consent form and train the parent on the baseline procedures. The following Monday baseline was started by the mother.

Phone calls were used to check up and answer questions before the second visit. The second visit was to train the mother over the tutoring procedures with her son. The trainer explained the procedures, modeled them once with Bobby and gave feedback to the mother while she practiced the steps with Bobby. The procedures were practice 3 times by the mother, until she reached criteria, 100% accuracy on the third trial.

The following Monday the tutoring sessions started with Bobby and his mother. Tutoring sessions were in the early evenings every night, Monday through Friday. The sessions averaged 10 minutes in length.

Tutoring Procedures

A. Selection of weekly facts to be tutored was done every Monday by the parents:

1. Sit with your child in a quiet place where you are likely not to be disturbed.
2. Show first card of the stack and say: "Read this problem and give the answer."
3. If correct, say nothing and put in pile.
4. If incorrect, say nothing and begin a pile for incorrect responses.
5. When the incorrect pile has 10 cards -- STOP!
6. Put other cards away and gather the 10 incorrect cards; these are your cards for the session and the week.
7. Write daily problems from cards to Worksheet #1.

B. Parents tutored their children 5 days a week using these procedures:

1. JUST THE SAME AS ABOVE
2. Show the first card and say, "Read this problem and give the answer."

3. If the child reads the card and gives the correct answer, put a + in the appropriate place, praise the child, and move on to the next card.
4. If the child gives the incorrect answer after reading the problem or does not respond at all after 3 seconds, put a - in the appropriate place, say "The answer is ___, read the problem again." Let the child say the problem correctly and then praise and move to the next card.
5. Continue this procedure through all 10 cards.
6. Repeat all 10 problems for three trials.
7. Give child time to color graph and praise.

At the end of each week the trainer would contact the mother in person or by phone. At this time problems were discussed, data sheets collected and new cards were given if needed.

The tuturing sessions were continued for 6 weeks. After the 6th week, Bobby and his mother moved and were unable to continue the procedures with our contact. However, they were going to continue the sessions until Bobby felt comfortable with his math facts.

Curriculum

The curriculum used in the study was designed to include all ranges of the basic math facts. The curriculum was developed by studying the way various schools assess acquisition of basic math facts. Among the methods used were checklist, scores on tests, charts, etc. All had similar criterion based sequence which was studied and used in the development of the curriculum used in the Parent Tutoring Program.

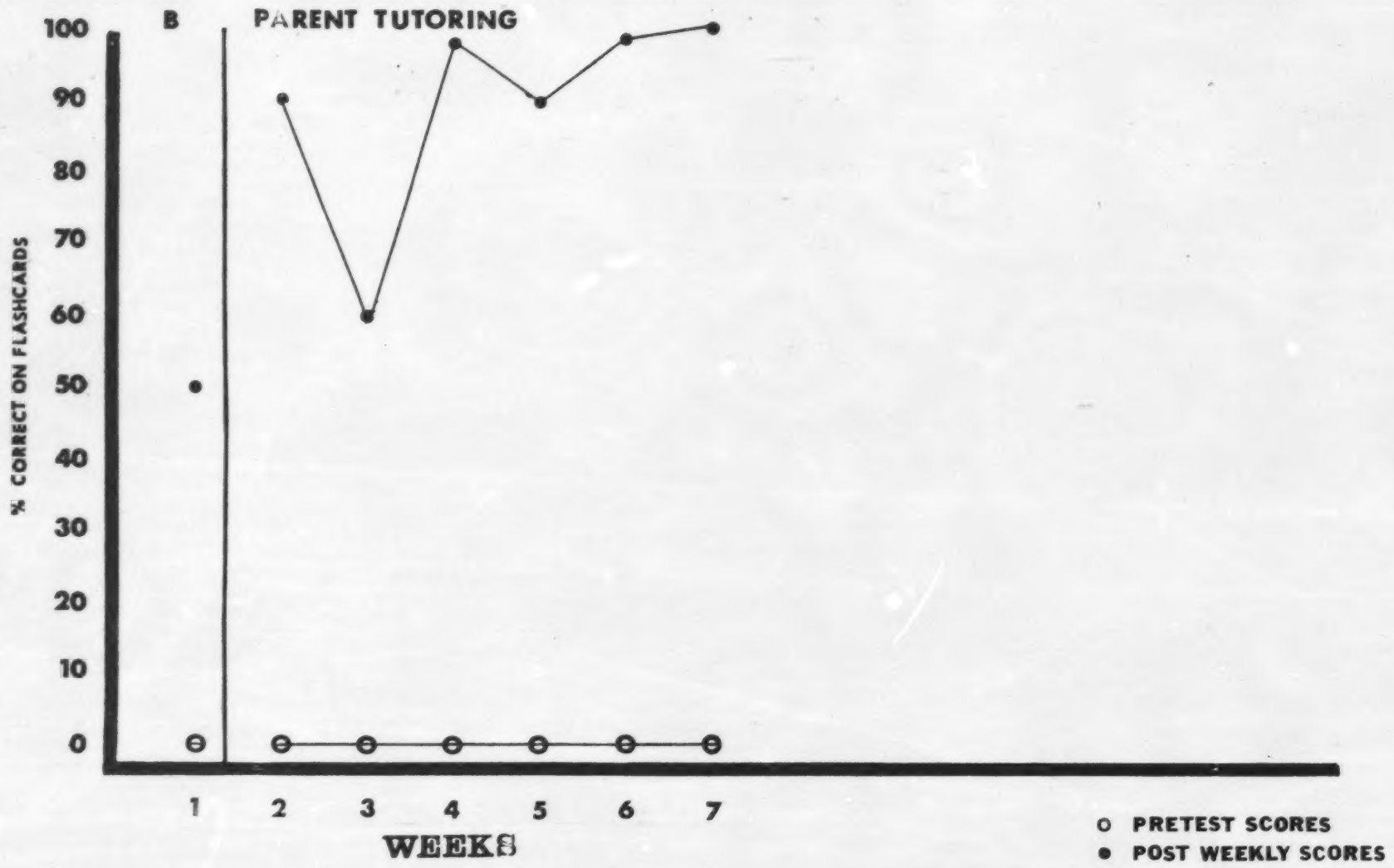
The curriculum was divided up into 4 parts: addition, subtraction, multiplication and division. Each of the 4 sections was divided up into 3 to 4 subgroups with graded increases in difficulty levels. For example, multiplication was divided up into 3 groups: facts 1 through 5, 6 through 9, 10 through 12. The curriculum was written on 3 X 5 index cards with a problem on the front and the answer on the back. The number of problems in each of the 4 groups varied depending on the section. The parent selected 10 problems, using the tutoring procedures, from the assigned section to use as the curriculum for the week.

Results

During baseline, Bobby's pretest score was 0% of the math facts answered correctly. On Friday, with no home tutoring, the score on the same facts was 50% correct (See Fig. 1).

During the six weeks that the mother tutored her son at home, pretest scores were always 0% correct. The mean improvement on Tuesdays for the six weeks was 44.5%. On Wednesdays, after 3 days of tutoring, the mean for the six weeks was 66.5% and on Thursdays, the mean was 77.67%. After a week of daily tutoring, for approximately 10 minutes a day, Bobby's posttest score mean was 88%.

Bobby and his mother were pleased with the results of the program. The mother expressed her intentions to continue tutoring her son after they moved to a new city. She reported that her interactions with Bobby, especially in regards to school were much more positive.


WEEKLY PRE & POSTTEST SCORES ON MATH FLASHCARDS
B
PARENT TUTORING
100
90
80
70
60
50
40
30
20
10
0
% CORRECT ON FLASHCARDS
1
2
3
4
5
6
7
WEEKS
PRETEST SCORES
POST WEEKLY SCORES